Design and Implementation of Personalized Learning Paths in Media Courses via AIGC Based Industry Education Integration

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Abstract: To address the current situation where there are significant differences between the basis of media majors offered by private colleges and the universities, an alternative way of educating other than the typical way involving one single machine has to be found. It is impossible to meet the requirement to teach students according to their aptitude since the nature of the traditional education system makes it impossible. The paper studies the personalized practical learning pathway within the context of the media computing world, which results from the combined efforts of the production of film series and education with participation of generative artificial intelligence. Based on the research findings, once generative artificial intelligence was employed, the fundamental task of audio-visual processing became much simpler, and focus gradually shifted towards combining multichannel material as well as general quality control. Besides, with the aid of a cloud-based collaborative workflow, students with different capabilities could select a developmental path that corresponds to their personality in the same project conditions. Practice has shown that this strategy will reduce the degree of human-computer interaction, strengthen motivation to study, and ensure that students get first-hand experience in the creation of motion pictures and television industry processes. Such a solution may help overcome the problem arising during the establishment of private colleges and universities, as it enhances the employment competitiveness of the students considerably, as well as provides solid results regarding enrolment and professional branding. Furthermore, the paper discusses a framework for developing a better model of media talent growth and integrating the industry-education collaboration in the field of smart media.

Keywords: Personalized Learning; Generative Artificial Intelligence; Man-Machine Co-Creation Ecology; Multimodal Interaction; Integration of Production and Education; Creator Experience

1. Change of Media Paradigm and Reshaping of the Value of Media Education

1.1 The Practical Dilemma of the Traditional Training Mode of Media Major

In view of the actual situation that the students' foundation of media majors in private colleges and universities is quite different, the traditional training mode based on single machine operation has been difficult to meet the needs of teaching students in accordance with their aptitude. Based on the collaborative project of film production and education with the participation of generative artificial intelligence, this paper attempts to explore the personalized practice teaching path for the computing media environment. The study found that after the introduction of generative artificial intelligence, the basic audio-visual processing link was significantly simplified, and the teaching focus gradually shifted to multimodal content integration and overall quality control. On this basis, through the construction of cloud collaborative workflow, students of different ability levels can choose the development direction that suits their own characteristics in the unified project framework. Practice shows that this model helps to enhance learning initiative and enables students to contact the industrialized production process of film and television in the context of artificial intelligence in advance. The relevant exploration can provide reference for the cultivation of media talents and the optimization of the integration mode of production and education under the background of intelligent media.

1.2 The Innovation Opportunity of Generative Technology Involved in the Classroom

In practical teaching, students have obvious differences in technical basis and artistic perception. The traditional teaching method of unified progress is difficult to take into account the development needs of students at different levels. On the one hand, students with weak foundations are easy to fall into repeated operations, and it is difficult to understand the higher level of creative logic; on the other hand, students with strong ability are limited by progress and are difficult to continue to improve. Although personalized learning has become an important direction of education development, it is difficult for teachers to carry out detailed hierarchical guidance under traditional training conditions, and the relevant practice mostly stays at the conceptual level [1]. By taking over the underlying pixel calculation and audio-visual feature rendering, the generative agent significantly reduces the operational resistance of human-computer collaboration in teaching and training. This change makes the teaching focus shift from software operation training to visual optimization, multi-modal semantic alignment, and film coordination. Based on this, this paper proposes a creator experience-oriented integration architecture of production and education, and introduces the real production process of enterprise generative artificial intelligence film series into the classroom. By reconstructing the cloud workflow and using the lower threshold of the generation tool, it provides differentiated development paths for students of different ability levels, so as to gradually improve students' comprehensive professional quality in near-real industrial practice.

The deep collaboration and dynamic complement between intelligent agents and human creators in the workflow is the key to human-machine co-creation. To explore the integration of industry and education in the intelligent era, it is necessary to jump out of the limited perspective of self-iteration of traditional single teaching tools and re-examine it in the overall framework of human-machine co-creation. In the traditional media education system, the training field and industrial production pipeline in colleges and universities have been separated for a long time, forming two relatively closed physical and logical spaces. In this project, the introduction of generative artificial intelligence is not a simple replacement for the original graphics software tools, but to re-establish an efficient cloud collaboration channel between universities and cutting-edge audiovisual enterprises.

2. Theoretical Basis of Human Intelligence Collaboration and Personalized Learning

2.1 Building a Community of Human Intelligence Collaboration That Breaks the Barriers of Disciplines

Relying on the virtual collaborative channel of "cloud", the high-precision digital assets, industrial-grade quality control standards, and high-frequency operation workflow of the industrial end can smoothly enter the classroom environment. The extension of this structure transforms the originally relatively closed classroom into a collaborative node that undertakes specific multimodal matching tasks in the real film and television production system, and also provides a digital media operating environment closer to reality for large-scale personalized learning.

2.2 Releasing Insight and Judgment by Stripping Mechanical Operation

From the perspective of creator experience, intelligent technology has the internal mechanism to support personalized learning. When dealing with complex multimodal visual tasks, the creativity of media students is often limited by the heavy underlying technical operations. Traditional film and television post-teaching requires students to deal with key frames and pixel-level mask calculations at the same time. Therefore, it is obviously felt in teaching work that for students with weak technical foundation in the later stage, their energy for understanding audio-visual semantics and coordinating the overall project is significantly compressed.

The intervention of generative workflow has obviously changed the distribution of the original learning experience field. By transferring a large number of rendering and feature processing tasks to the cloud system, students can effectively reduce the repetitive burden caused by mechanical operations. As a result, the trainees can devote more of their limited attention to semantic error correction, audio and video matching review, and

cross-regional collaborative communication, which provides the possibility for students who are not good at later technology to develop higher-level project coordination ability from the practical level [2].

3. Cloud-Driven Collaborative Teaching Practice Path

3.1 Introduction of Real Business Projects and Selection of Differentiated Samples

In order to test the actual impact of generative technology on personalized learning paths, this study carried out a systematic empirical design. The experimental sample is derived from the pre-production-education collaborative training carried out by school-enterprise cooperation. The subjects are 150 applied college students majoring in media who have basic non-linear editing experience but generally lack complex visual processing ability.

In the initial stage, the enterprise side provides specific text prompts and basic image templates, requiring students to complete multi-modal audio-visual test tasks within a limited time. The research team no longer takes software operation proficiency as the main evaluation standard, but takes the matching degree of generation intention, multi-modal semantic sensitivity, and the willingness to explore unknown algorithms as the basis for judgment [3]. On this basis, professional teachers and enterprise experts carry out multiple rounds of dynamic evaluation and resource coordination, and finally 15 students with development potential and strong willingness to participate are selected and included in the core collaborative teaching link. This screening process enables the necessary ability differences between samples to be maintained, which provides conditions for the subsequent development of personalized learning paths.

The development of a personalized training path depends to a large extent on students' preliminary understanding of cutting-edge computing media practice and the stimulation of learning motivation. In the early stage of project implementation, the research team carried out pre-technical instructions for students majoring in media in application-oriented universities. In order to avoid learning fatigue caused by virtual tasks that are divorced from real needs, this enlightenment training directly introduced high-precision digital materials in real projects of enterprises, and guided students to complete the basic operation process from text to multimodal audio-visual generation [4].

Practice has proved that the introduction of real industrial data has effectively enhanced students' sense of task participation and goal orientation, and made them show more positive willingness to explore when using intelligent generation tools. This early practical experience not only reduces students' strangeness to cutting-edge media, but also provides a good dynamic basis for the selection of core members in subsequent collaborative projects.

3.2 School-Enterprise Cloud Work Deployment and Learning Motivation Stimulation

The practical environment of this study is no longer dependent on the hardware conditions of the local computer room, but is transferred to the business-level generative platform supported by the enterprise as a whole. In the implementation process of the integration of industry and education, this project has carried out cross-regional coordination with the domestic frontier audio-visual enterprise Zhejiang Burning Point Innovation Film and Television Technology Co., Ltd. The enterprise side is responsible for the storage and distribution of high-precision data, and unifies relevant production standards. College students access the cloud working platform through the network to complete tasks such as audio-visual matching and picture reconstruction [5].

Thanks to the combination of cloud resource support and local operation, a large number of video decompression, audio-visual alignment, and picture reprocessing tasks can be completed quickly in the cloud. This method not only makes up for the lack of hardware conditions in application-oriented universities, but also reduces the impact of local equipment differences on the research process to a certain extent.

In the process of forming the core training team, the design idea of the instructor is completely guided by the experience of the creator, thus eliminating the relationship between the efficiency requirements of the enterprise and the learning burden of the students. Considering the cloud resource management cost and quality control pressure, the enterprise initially set a strict limit on the number of participants. In order to expand the teaching coverage of the

project, teachers actively coordinated the resources of both schools and enterprises on the basis of comprehensive evaluation of students' professional potential, and finally adjusted the number of core participants to 15 people.

In this process, professional teachers actually assume the key role of teaching organization and coordination, and carefully control many elements in the implementation of the project. In terms of time arrangement, try to be consistent with the normal teaching rhythm to avoid increasing the extra burden on students; in terms of communication, combine the students' daily use of instant messaging tools to reduce the deviation in the process of information transmission; in terms of incentive mechanism, through the introduction of work signature and enterprise internship opportunities, a clearer learning return path is formed.

After clarifying the boundary of teaching implementation, both schools and enterprises jointly carry out off-site collaborative training organizations. In the project start-up phase, through online communication, the disassembly of the overall task structure, the unified specification of the operation process, and the individual task allocation of 15 students are completed, and the cloud work system provided by the enterprise is accessed, combined with instant messaging tools for daily collaboration.

This collaborative approach can support the tracking of the distribution and processing of large-scale audio-visual data, realize the timely recovery and remote optimization of results, and ensure the stability and continuity of task advancement in a cross-regional collaborative environment to a certain extent.

3.3 Audio-Visual Material Disassembly and Semantic Error Correction Intervention Mechanism

Real film and television production training, first of all, to solve the problem of massive material reception and classification. In the early stages of the project, the company distributed high-definition materials to students according to the progress of the series. For example, after the students who are responsible for the fourteenth episode get the exclusive material, they need to independently complete the disassembly of the audio-visual content and accurately separate the video screen from the audio track. Considering that students have other regular teaching courses to learn, they need to complete the project work in no class time. We transfer the core rendering link to the cloud platform supported by the enterprise as a whole, which also strengthens the students' spare time planning ability. In students' spare time, students log in to the specified node through authorization, which not only avoids the computing bottleneck of local equipment, but also can directly use the intelligent generation tool of the industry. This mode of combining cloud collaboration with local operation not only reduces the teaching cost, but also urges students to develop material management habits that meet the standards of the film and television industry in the early stage of practical operation.

Students with strong audio-visual perception ability will naturally turn their learning focus to semantic error correction and picture quality control of content. When performing audio and video alignment tasks, students must deal with the occasional identification bias of artificial intelligence and carry out effective manual intervention in time. At that time, the primary task was to solve the problem of sound and picture dislocation in complex scenes. When there are multiple characters interacting in the picture, the generated model is prone to semantic confusion, such as mismatching male voices to female characters. Students need to be keen to detect such deviations and accurately mark them in the cloud workbench. In addition, students also need to deal with the visual defects generated by the picture. Limited by the quality of the source material or the limitation of the algorithm, the output video is accompanied by problems such as picture tearing or local mosaic. In the face of these obvious quality defects, students need to take the initiative to communicate across links. Through the cloud platform, enterprises are required to re-issue revised documents until accurate frame-level audio-visual synchronization is achieved.

3.4 Visual Reconstruction Aesthetic Judgment and Project Co-Ordination Scheduling

In the real film and television industry production process, not only does it require accurate synchronization of audio and video, but also includes complicated post-image quality improvement links. After completing the basic digital human lip alignment, some students' practical direction extends to a higher level of

visual aesthetic coordination. Due to the limitation of the collection of original materials or the loss of details in the generation process, students must be proficient in using a variety of advanced generation tools built into the platform to reprocess the core screen [6].

The specific operation of this work includes using a super-resolution algorithm to improve the clarity of the whole picture, using picture expansion technology to expand the original visual range, and repairing small picture anomalies through local redrawing function. This complex operation from single audio-visual matching to overall image quality reconstruction requires students to flexibly schedule multiple generation tools in the same process. Through the practical training of high-intensity real projects, it is ensured that the final submitted digital content can meet the aesthetic standards of commercial dramas.

Through this project-based teaching practice under the coordination of production and education, it has opened up a growth path for students with macro-management potential. In the face of intensive task requirements and strict delivery times, these students gradually jump out of the specific modification of a single picture, and turn to assume the hub responsibility of cross-regional cooperation. Their core work is to accurately grasp the overall progress, dynamically allocate and generate tasks within the group, and conduct efficient data communication with the enterprise technology center [7].

This kind of project disassembly ability, team emotional coordination ability, and cross-departmental communication skills trained under real business pressure mark the practical improvement of students' soft power in film production management. This is also a high-level professional literacy training that is extremely difficult to touch in the traditional classroom environment and stand-alone software teaching.

4. Teaching Effectiveness Evaluation and Talent Training Closed Loop

4.1 Overcoming Technical Anxiety and Cultivating Professional Communication Norms

At the beginning of the project, most students often feel novel and full of technical anxiety in the face of excellent business-level materials, and worry that their ability cannot meet the real delivery standards. With the in-depth participation in the cloud collaborative workflow, students have experienced the entire production process from material reception, audio and video alignment to picture optimization, and their professional self-confidence has been significantly improved. The review of practice also shows that this strict production-education collaborative training effectively gives students the confidence to carry out content production independently. At present, some students have successfully hatched personal self-media accounts and set up a small-scale video creation team. The result of this transformation to real business deeply confirms the decisive role of the whole process training of real production and education projects in stimulating students' internal learning motivation.

At the level of collaborative communication, students gradually change from random campus expression habits to standardized communication that adapts to the standards of the film and television industry. In early cloud communication, students often use words that lack industrial standards and are biased towards the perceptual level. For example, when the sound and picture are not synchronized, they can only express the mouth type violation or the picture is vague, and is often accompanied by impatience. With the deepening of the practice of this project, students have gradually reduced emotional expression and learned to use accurate professional terms to define problems and control progress. They can accurately use professional terms to point out specific defects such as sound track dislocation or local picture tearing in specific materials, and mark and reject problems in the cloud workbench. In terms of task coordination, students have grown from passive acceptance of instructions to mature collaborators who can independently estimate production time, set up self-examination nodes, and deliver finished products on time, fully demonstrating comprehensive professional qualities that meet the requirements of the modern audio-visual industry [8].

In order to better grasp the personalized development and changes of students in the process of practice, this study constructs a multi-dimensional evaluation method combining operational performance and

learning experience. In terms of objective data, the system continuously records the average time spent by students on the task, the deviation of audio-visual matching and the number of revisions after the rejection of the work, so as to reflect the process of improving their ability from initial mastery to gradual proficiency. In terms of subjective evaluation, the improvement of students' professional quality and overall cognitive level is evaluated by observing the normative and professional expression of students in the process of problem feedback and task coordination. At the same time, qualitative observation and related data are combined to make a comprehensive judgment on the effect of personalized learning.

4.2 Reshaping the Role of Teachers and the Deep Integration of Production and Education Resources

Through this real project practice, the production-education collaborative teaching activities involving generative artificial intelligence verify the new ideas of media education in the intelligent era, that is, the direct introduction of real industrial projects into the classroom is an effective way to achieve personalized training. In this process, the role of professional teachers is no longer a single knowledge imparter. The identity of professional teachers has changed into project architects, assuming another identity as coordinator of school-enterprise resources and organizer of practical teaching [9]. By connecting the real business tasks of film and television enterprises, it not only makes up for the lack of practical computing resources in private colleges and universities, but also makes the real industrial production standards effectively implemented in daily teaching.

4.3 Employment Efficiency Improvement and University Brand Building Feedback

From the perspective of long-term development, this model of introducing enterprise real workflow into the classroom provides a feasible solution to solve the development dilemma of private colleges and universities. Students can accumulate real experience in the film and television industry collaboration while in school, and have commercial-grade works as job support before graduation. This can not only effectively improve the employment competitiveness of students, but also provide a strong proof of results for the school's enrollment publicity and professional brand building. Therefore, a closed loop of industry-education integration from introducing real industrial resources to carry out personalized teaching to output high-level professionals to enhance the social reputation of the school can be completely constructed.

4.4 Prospect of Human-Machine Co-Creation Education Paradigm for the Future

At present, the film and television visual training empowered by generative artificial intelligence is only the initial stage of educational technology reform. With the continuous maturity of large-scale generative models in the field of digital content creation, the teaching of media majors will surely move towards a deeper stage of human-computer co-creation. This cloud collaborative teaching practice has preliminarily proved the positive role of artificial intelligence in reducing students' repeated labor burden and stimulating core creativity [10]. In the future, it is urgent to combine more cutting-edge technology development trends and continue to explore how human creators can achieve more reasonable task division and deep integration with artificial intelligence systems in complex business workflows. This is not only an inevitable requirement for the deepening reform of media education in application-oriented universities, but also a key path to explore the frontier boundary of digital media talent training.

5. Conclusion and Prospects

This study focuses on the design and implementation of personalized learning paths for media courses in private colleges and universities, and constructs a whole-link industry-education integration practice model supported by AIGC and cloud collaboration. Aiming at the problems of large differences in students' foundation, single teaching mode, and disconnection between training and industry, the research introduces generative artificial intelligence into the whole process of film and television series production teaching, and reconstructs the teaching workflow from underlying operation to high-level creation.

The results show that AIGC can effectively simplify basic audio-visual processing tasks, shift teaching focus to multimodal integration, semantic control, and overall creation, and

significantly reduce the technical threshold for students with weak foundations. At the same time, the cloud-based school-enterprise collaborative platform supports differentiated task allocation and personalized development paths for students at different levels, which effectively stimulates learning initiative and professional identity.

In terms of practice value, this model not only improves students' professional ability, creative literacy, and industrial communication norms, but also helps private universities make up for hardware shortcomings, connect real industrial standards, and enhance students' employment competitiveness and school professional brand influence. The transformation of teachers' roles from knowledge impartors to project architects and resource coordinators also provides a reference for the reform of media education in the intelligent era.

In the future, with the further development of generative models and human-machine co-creation ecology, the personalized teaching system can be further optimized in terms of intelligent evaluation, dynamic task matching, and deep integration of production and education. This study provides a replicable and promotable scheme for media talent training in private colleges and universities under the background of intelligent media.

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